



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,941	01/04/2002	Wendell B. Colson	4686/00004	4413

22910 7590 02/10/2005

BANNER & WITCOFF, LTD.  
28 STATE STREET  
28th FLOOR  
BOSTON, MA 02109-9601

EXAMINER

BEFUMO, JENNA LEIGH

ART UNIT	PAPER NUMBER
----------	--------------

1771

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/869,941

Applicant(s)

COLSON ET AL.

Examiner

Jenna-Leigh Befumo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 158-199 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 158-199 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 19, 2004 has been entered.

### ***Response to Amendment***

2. The Amendment submitted on October 4, 2004, has been entered. Claims 1 – 157 have been cancelled. Claim 158 has been amended. Therefore, the pending claims are 158 – 199.

3. The amendment to claim 158 is sufficient to overcome the 35 USC 102 and 35 USC 103 rejections over Hartstein (3,591,434) since Hartstein fails to teach using a discontinuous adhesive layer between the two parallel sets of yarns. However, a new rejection based on Hartstein is set forth below.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1771

5. Claims 158, 169, 178, 179, and 193 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 59 of copending Application No. 10/088,576, now allowed claim 35 in US Patent No. 6,805,771. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in both applications are drawn to the same finished product, i.e., a nonwoven fabric with parallel yarns running in the warp and weft directions which are adhesively bonded together.

The applicant argues that the apparatus claimed in 6,805,771 produces a patentably distinct nonwoven product and that since the application has been allowed, a two-way test for double patenting is required (response, pages 8 – 12).

First, according to MPEP § 804, paragraph II.B.1.(b), two-way double patenting is applied in situations where 1) the later filed application has been allowed, 2) the applicant could not have filed the claims in a single application, and 3) there is an administrative delay. While it is true that the later filed patent application has been allowed, the other two requirements have not been met in this situation. In fact, in the original claims of the present application, the applicant had similar apparatus claims and a similar product claim, so there appears to be no reason why the claims could not have been filed in a single application. And further there has been no administrative delay by the patent office. Nor has the applicant provided any evidence that the subject matter could not have been filed in the same patent or that there has been an administrative delay on the part of the patent office. Therefore, the application only needs to meet the one-way double patenting test.

Second, the applicant argues that the two sets of claims are patentably distinct because the non-woven fabric made by the apparatus would have limited shrinkage and a smaller

Art Unit: 1771

thickness than a nonwoven fabric made by another apparatus. There is no evidence that shows that the product made by the present application would not or could not be made with limited shrinkage or the same thickness as the patented nonwoven structure. The evidence provided by the applicant does not compare the two structures to each other, but only states that the fabric shrinkage is limited and the finished thickness is less than the thickness of the fabric before it passes through the pressure laminator. Hence the product taught in this application is presumed to have the same properties as the product in 6,805,771 since the products are made by similar methods. Further, as admitted by the applicant in the arguments, even if the product in 6,805,771 has different properties due to the apparatus it is produced by, the claimed product is still a species of the nonwoven fabric claimed in this application (response, page 10). Thus, the species would in fact suggest the claims in the present invention without an additional reference. Therefore, the claims are drawn to overlapping subject matter and the double patenting rejection is appropriate.

6. Claims 158 – 199 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9 – 16 of copending Application No. 10/088,613. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in both applications are drawn to the same finished product, i.e., a nonwoven fabric with parallel yarns running in the warp and weft directions which are adhesively bonded together.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The applicant argues that this double patenting rejection should be withdrawn because claims 9 – 16 in the copending application have been withdrawn. While the claims may currently be withdrawn, these claims are still pending in the other application and could still be allowed. Thus, the rejection is maintained until which point the claims in 10/088,613 have been cancelled or amended so that the claims are drawn to a different scope.

***Claim Rejections - 35 USC § 102***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 158 – 160, 164, 169, 170, 178 – 180, 186, and 193 – 199 are rejected under 35 U.S.C. 102(b) as being anticipated by Bascom (3,582,443).

Bascom discloses a nonwoven fabric having a group of warp strands bonded to a group of cross strands by adhesive which is applied to one or both sets of yarns (column 1, lines 69 – 72). The adhesive is applied to the cross strands only on the side of the yarn adjacent the warp strands (column 2, lines 21 – 24). Hence, the adhesive would only be located between the two layers of strands. The adhesive can also be applied to the warp strands in a similar manner to produce a bi-directional fabric having equal strength in both directions (column 2, lines 25 – 30). The strands can be made from various materials depending on the end use of the fabric including steel, rubber, mineral, plastics, and natural fibers (column 2, lines 50 – 55). The warp strands can be larger than or the same size as the cross strands depending on the desired properties of the end product (column 7, lines 35 – 40). Also, the cross strands can have two different size strands, where the strands coated with binder are smaller than the uncoated cross strands and the binder strands are virtually covered from view by the larger cross strands (column 10, lines 25 –

Art Unit: 1771

30). The warp strands are laid at approximately right angle to the cross strands (column 7, lines 45 – 47). Thus, claims 158 – 160, 164, 169, 178 – 180, 186, and 193 – 199 are anticipated by Bascom.

The determination of patentability for a product is based on the structure of the product and not the method of making it. Therefore, the method limitations recited in claim 170 are not given patentable weight at this time. As long as the yarns have an adhesive coating on one side the method in which the coating was applied does not manipulatively effect the structure of the final product. Therefore, claim 170 is also rejected.

9. Claims 158 – 160, 164, 165, 169, 170, 172, 172, 173, 178 – 180, 186, 193, 197, and 198 are rejected under 35 U.S.C. 102(b) as being anticipated by Harwood (2,900,980).

Harwood discloses a nonwoven fabric comprising a set of threads extending lengthwise and a set of threads extending crosswise (column 2, lines 30 – 32). The yarns are held together in a fixed relationship to form an open gauze fabric (column 2, lines 32 – 35). Harwood teaches that the fabric should be comfortable so it doesn't chafe or irritate a user and be flexible and soft so that it can be easily wrapped around an absorbent core (column 2, lines 42 – 55). Also the fabric should have uniform thread distribution (column 2, lines 10 – 12). The fabric is produced by adhesively bonding the two sets of threads, which run substantially perpendicular to each other, together, as shown in Figure 2 (column 3, lines 38 – 43). The adhesive is applied on the threads in a discontinuous pattern (column 3, lines 54 – 58). Harwood discloses that applying the adhesive discontinuously allows the fabric to maintain the softness and flexibility of the uncoated yarns (column 4, lines 40 – 50). The adhesive can be a solvent, emulsion, hot melt, or thermoplastic type adhesive (column 4, lines 51 – 52).

***Claim Rejections - 35 USC § 103***

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 158 – 167, 169 – 189, and 192 – 199 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartstein in view of Bodford et al. (5,342,469).

The features of Hartstein have been set forth in the previous Office Actions. Hartstein discloses a nonwoven laminate comprising two sets of parallel yarns which are bonded together by a film layer. The two sets of yarns are aligned perpendicular to each other in the nonwoven laminate. Hartstein fails to teach using a discontinuous layer as the adhesive layer between the two sets of yarns. Bodford et al. is drawn to a nonwoven laminate structure comprising two outer fiber layers and an adhesive layer in the center. Bodford et al. discloses a composite structure produced with a discontinuous adhesive layer (abstract). Bodford et al. teaches that using a discontinuous adhesive layer instead of a film layer is advantageous when a breathable or porous end product is desired because the film layer will prevent any liquids or gases from passing through the laminate (column 1, lines 40 – 62). The discontinuous adhesive layer disclosed by Bodford et al. is made from filaments or strands of adhesive, such as hot melt adhesive (column 2, lines 25 – 30). And the adhesive layer has a thickness of about 3 – 100 microns which is equal to the diameter of the filaments (column 4, lines 1 – 4 and 18 – 20). Thus, it would have been obvious to one of ordinary skill in the art to substitute the adhesive layer taught by Bodford et al. for the adhesive film layer taught by Hartstein to produce a finished product which is breathable. Thus, amended claim 158 is rejected. Claims 159 – 167, 169 – 189, and 192 – 199 are rejected for the reasons of record.



Art Unit: 1771

12. Claims 168, 190, and 191 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hartstein in view of Pittman for the reasons of record.

13. Claims 161 – 163, 165 – 168, 171 – 174, 176, 177, 181 – 185, and 187 – 192 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bascom.

The features of Bascom have been set forth above. While Bascom discloses that the strands can be made from various materials including steel, rubber, mineral, plastics, and natural fibers (column 2, lines 50 – 55), Bascom fails to teach specific types of fibers which are used. However, Bascom discloses that the fibers are chosen for their specific properties such as strength, electrical or magnetic properties, and cost (column 2, lines 53 – 55). And different materials can be combined together in a single fabric to further optimize the properties of the end product (column 11, lines 1 – 10). Thus, it would have been obvious to one having ordinary skill in the art to choose which metal, natural, plastic, and mineral fibers to use, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416. One of ordinary skill in the art would be motivated to use metal or inorganic mineral fibers, such as copper, aluminum, silver, or glass fibers to create a high-strength and stiff reinforcing material or to have the desired electrical or magnetic properties. Further, one would choose plastic or natural fibers, such as cotton, wool, polyester, polyamide, or rayon to produce a softer, more flexible fabric which can also be absorbent, comfortable to the touch, dimensionally stable, with good strength properties and inexpensive to produce. Thus, claims 165 – 168 and 187 – 192 are rejected.

Further, Bascom fails to teach the density of the strands and the size of the strands used in the fabric. However, it would have been obvious to one having ordinary skill in the art at the

Art Unit: 1771

time the invention was made to choose the number of yarns per inch and the size of the yarns, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). One of ordinary skill in the art would choose the density of the yarns based on the strength, flexibility and amount of open area desired in the final product. Further, the size of the yarns would also be chosen based upon the desired flexibility, strength, and stability of the fabric. A high density fabric would have good strength and stability properties while still being light and flexible. Therefore, claims 181 – 185 are rejected.

While Bascom also discloses that different adhesives can be used in the present invention based on the compatibility of the adhesive with the material used to make the fiber strands (column 2, lines 45 – 50), Bascom fails to teach specific types of adhesive materials which can be used in the present invention. Therefore, it would have been obvious to one of ordinary skill in the art to choose a known adhesive based on the compatibility of the adhesive with the material used to produce the strands to maximize the bond strength between the warp strands and the cross strands. As set forth above, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416. Thus, one of ordinary skill in the art would choose hot melt adhesives, heat activatable adhesives, or hot melt copolyester adhesives when using materials which are compatible with those adhesives. Thus, claims 172 – 174 are rejected.

Additionally, Bascom discloses that using high amounts of adhesive in nonwoven fabrics produces materials which can be stiff and expensive (column 1, lines 30 – 45). The prior art discloses using a minimum of 10% adhesive by weight and usually uses more than 30%.

Art Unit: 1771

Bascom discloses that the present invention can be produced with as little as 0.5% or 1% adhesive (column 1, lines 65 – 67). As set forth above, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Hence, it would have been obvious to one of ordinary skill in the art to increase the amount of adhesive to between 5 and 10% to increase the bond strength between yarns and the stiffness of the fabric while still limiting the cost of producing the fabric and producing a fabric which has some of the qualities of woven fabrics. Further, it would have been obvious to one of ordinary skill in the art to optimize the thickness of the adhesive so it is thick enough to create a secure bond with the adjacent yarns, while minimizing the amount of adhesive on the yarns. Thus, claims 171, 176, and 177 are rejected.

Finally, Bascom fails to teach the basis weight of the fabrics and the adhesive layer. However, it would have been obvious to one of ordinary skill in the art to choose the claimed basis weight fabric since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416. Thus, one of ordinary skill in the art would be motivated to choose a fabric basis weight which is heavy enough to resist tearing and abrading while being flexible and soft as well as using the least amount of material to keep the product inexpensive to produce. Additionally, the amount of adhesive would be chosen based on the weight of the fabric and the desired strength and dimensional stability properties of the finished product. Thus, claims 162 and 163 are rejected.

### ***Conclusion***

Art Unit: 1771

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (571) 272-1472. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jenna-Leigh Befumo  
February 6, 2005